



UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/160,657	09/25/98	LYDING J	22010-135/IL

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MM21/0512

EXAMINER
GUERRERO, M

ART UNIT	PAPER NUMBER
2022	

DATE MAILED: 05/12/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/160,657

Applicant(s)
Lyding et al.

Examiner
Maria Guerrero

Group Art Unit
2822



☒ Responsive to communication(s) filed on Mar 9, 1999

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 40-59 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 40-59 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☒ The proposed drawing correction, filed on Mar 9, 1999 is ☒ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 5

☒ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 40-59 are rejected under the judicially created doctrine of double patenting over claims 1-2 of U. S. Patent No. 5,872,387 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: a field effect transistor having an interface between a semiconductive silicon layer and a gate oxide layer, characterized by post-fabrication passivation in a heated deuterium gas-enriched atmosphere.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application

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which matured into a patent. *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 50-59 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The dependent claims 50-59 recited the limitation "the device of claim..". The independent claim 49 recited the preamble "A passivated field effect transistor".

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 40-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lisenker et al. (PCT/US94/01669) (cited by Applicant).
7. Lisenker et al. discloses a MOS device having an interface between a silicon layer and gate oxide layer, the MOS device being treated with deuterium (see pages 1-14)..
8. Claims 49-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leveinstein et al. (U.S. 4,151,007) (cited by Applicant) in view of Brown et al. (U.S. 5,264,724) (cited by Applicant)..
9. Leveinstein et al. discloses a field effect transistor having an interface between a silicon layer and a gate oxide layer, the field effect transistor being treated with a heated hydrogen gas (see the figure, col. 1, lines 6-35, col. 2, lines 15-40, col. 3, lines 1-35, col. 4)..
10. Brown et al. discloses the used of deuterium or hydrogen as known in the art for minimizing displacement damage (see col. 10, lines 35-40).
11. It would have been obvious to modify Leveinstein et al.'s field effect transistor by disclosing the post fabrication process using deuterium as taught by Brown et al. because it would complete a field effect transistor having minimized displacement damage as taught by Brown et al.

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12. Claims 40-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over N.S. Saks et al. "Time-Dependence of the Interface Trap build in Deuterium-Annealed Oxides After Irradiation" (cited by Applicant)

13. N. S. Saks et al. teaches a field effect transistor having a Si-SiO₂ interface being treated with deuterium (see pages 3014-3016)..

Response to Arguments

14. Applicant's arguments with respect to claims 40-59 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

15. Applicant's submission of an information disclosure statement under 37 CFR 1.97© with the fee set forth in 37 CFR 1.17(p) on March 3, 1999 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609(B)(2)(I). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

This Action is made final because the Examiner had not received the Proposed Supplemental Amendment and the Terminal Disclaimer (see Interview dated April 28, 1999).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maria Guerrero whose telephone number is (703) 305-0162. The examiner can normally be reached on Monday-Friday from 8:00 Am to 4:30 Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Brown, can be reached on (703) 308-4083.


The fax phone number for this Group is (703) 308-7722.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4900.

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May 7, 1999


Teresa M. Arroyo
Primary Examiner *ACTING SPE*